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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/683,794	10/10/2003	Timothy E. Hutchins	SYP-196	2177

7590 05/26/2004

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EXAMINER	
SOUW, BERNARD E	

ART UNIT	PAPER NUMBER
2881	

DATE MAILED: 05/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Office Action Summary	**Application No.** 10/683,794	**Applicant(s)** HUTCHINS ET AL.
	Examiner Bernard E Souw	**Art Unit** 2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 10 October 2003.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-14 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-14 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 10 October 2003 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Franzen'368 (USPAT 2003/0057368), hereinafter denoted by Franzen'368, or Schürenberg et al. (USPAT 6,287,872), hereinafter denoted as Schürenberg'872, in view of Franzen'830 (USPAT 5,869,830), Bornholt (USPAT 3,255,544), Henneman et al. (USPAT 5,659,990), Rosenberg (USPAT 3,009,275), Pritchard (USPAT 3,935,656) Lanier (USPAT 6,722,069) and Nishi et al. (US 6,225,012).

Franzen'368 and Schürenberg'872 each discloses a sample support structure, shown by Franzen'368 in Fig.1 and by Schürenberg'872 in Fig.1c that comprises a sample (insert) plate 1 having a first surface configured to retain a plurality of samples thereon (not shown in Fig.1), as recited by Franzen'368 in sect. [0030] and by Schurenberg'872 in Col.6/ll.40-48.

However, neither Franzen'368 nor Schürenberg'872 teaches to use a retainer plate having a central opening shaped to accept a sample insert plate. For use in MALDI mass spectrometry Franzen'830 teaches, not only is it desirable to have a sample plate that is removable from the base structure, as recited by Franzen'368 in sect. [0017], but also crucially important to have a sample plate that is essentially flat, as recited by Franzen'830 in Col.9/ll.65-67. Methods for removably but firmly holding a substantially flat sample plate in a frame structure has been quite well known for a very long time in the art of picture framing, wherein the picture is broadly representing a sample insert plate and the picture frame broadly representing at least a portion of Franzen'368's base structure, into which the sample plate is literally "*inserted*" into the base as "*retainer plate*".

Bornholt discloses in Figs.2 and 3 such a "*sample insert plate*" 8 being removably but firmly held inside a "*retainer plate*" 2 shown in Fig.3, "*retainer plate*" 25 in Fig.4 and "*retainer plate*" 50 in Fig.5, the retainer plate (i.e., picture frame) having a central opening shaped to accept a sample insert plate 7 in Fig.3, sample insert plate 26 in Fig.4 and sample insert plate 51 in Fig.5, each of Bornholt's sample insert plate having a first surface configured to retain a plurality of samples (picture prints) thereon, as recited in Col.1/ll.69-72, Col.2/ll.1-72 and Col.3/ll.1-27.

Franzen'368's or Schürenberg'872 as modified by Franzen'830's and Bornholt's further comprises a handle 11 adapted to be attached to the retainer plate 4 in a manner to permit limited rotation of the handle 11 between the first and second positions and to be in contact with the surface opposite to the first surface of the sample insert plate, as recited by Bornholt in Col.2/ll.14-72 and Col.3/ll.5-18, wherein the handle 11 is retained on the retainer plate 4 when the handle is rotated to the first position and wherein the handle is removed from the retainer plate when the handle is rotated to the second position to facilitate insertion and removal of the sample insert plate from the retainer plate, as is self-obvious in Fig.2. Such a rotation of Bornholt's handle between the first and second positions is more clearly shown by Henneman's as shown in Fig.1, by Rosenberg in Fig.1, 2 and 4, by Pritchard as shown in Fig.3, wherein the rotation of the handle 19 also is self-obvious, with respective results as recited in the claim, and further by Lanier, as in the form of handle 19 in Fig.2, and handle 33 as shown in Fig.6, wherein the "*rotation*" of the handle 19 is self-obvious in Lanier's Fig.2.

However, Franzen'368's or Schürenberg'872's as modified by Franzen'830's and Bornholt's, Henneman's, Rosenberg's, Pritchard's or Lanier's do not teach to shape the peripheral surface of the sample to fit within the central opening ("*hole*") of the frame or sample holder in only one direction. Such an additional property of sample holders is conventional, and must be already inherent in most MALDI sample plates holding a multiple of samples in order to identify each sample without ambiguity, such that sample identification mistakes can be effectively prevented. Means to implement such a property is known in the art, and one of ordinary skill in the art does not need any auxiliary teaching to make such an orientation mark in combining Franzen'368's or Schürenberg'872's with Franzen'830's and with Bornholt's, Henneman's, Rosenberg's, Pritchard's, and/or Lanier's, since it belongs to routine skill in the art, and hence unpatentable, while many methods being easily derived from everyday experience by those not even skilled in the art. An example for such trivial and conventional method of rotational identification marker, or error preventer, is given, e.g., by Nishi et al., showing in Fig.6(a,b), Fig.8(a,b) and Fig.14(a,b) various peripheral shapes in the form of notches and positioning markers formed on a sample, as recited in the Abstract and in

Col.12/ll.63-67 & Col.13/ll.1-13 in reference to Fig.6(a,b), in Col.16/ll.31-65 in reference to Fig.8(a,b) and in Col.17/ll.1-59 in reference to Fig.14(a,b).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Franzen'368's or Schürenberg'872's sample plate with Franzen'830's, Bornholt's, Henneman's, Rosenberg's, Pritchard's, and/or Lanier's retainer plate, in order to have a sample plate that is firmly held in a frame structure, but is easily removable and/or exchangeable, for sequentially performing mass analyses on a large number of samples on a routine basis without every time exposing the system to ambient atmosphere.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide peripheral surface shapes on a sample plate with multiple samples as taught by Nishi et al., in order to identify each sample without ambiguity, such that sample identification mistakes can be effectively prevented, as generally desired in the art.

In this specific case, the rationale to modify or combine the prior arts of Nishi et al. with Franzen'368's or Schürenberg'872's, Franzen'830's, and further with Bornholt's, Henneman's, Rosenberg's, Pritchard's and Lanier's, does not have to be expressly stated in the prior arts; in the present case the rationale is reasoned from knowledge generally available to one of ordinary skill in the art. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

Specifically, this relates to suggestion/motivation in that "having established that this knowledge was in the art, the Examiner could then properly rely on a conclusion of obviousness 'from common knowledge and common sense of the person of ordinary skill in the art without any specific hint or suggestion in a particular reference'." *In re Bozek*, 416 F.2d 1385, 1390, 163 USPQ 545, 549 (CCPA 1969).

► Regarding claim 2, an intermediate plate between the insert plate and the handle is shown in all picture frames of Bornholt's, Henneman's, Rosenberg's, Pritchard's, and Lanier's, as is obvious in the figure drawings as recited and in the relevant text related to the drawings, e.g., Bornholt's intermediate plate 9 of Fig.3, recited in Col.1/ll.72 and Col.2/ll.1-3.

► Regarding claims 3-7, a spring positioned at the handle is recited by Henneman et al. in the Abstract; a ledge along the internal periphery of the retainer plate is shown by Pritchard in Fig.3 between 13 and 49-50, as recited in Col.3/ll.46-52; and Bornholt's Fig.3 shows a stepped edge 16 along the periphery that matches the dimensions of the ledge portion 11-13-12 shown separately in Fig.1. Specifically regarding claims 3, 5 and 7, Bornholt's intermediate or pressure plate 9 shown in Fig.3 may be simply discarded, if it is not needed. Omission of an element and/or its function is obvious if the function of the element is not desired/required/intended. *Ex Parte Wu*, USPQ 2031 (Bd. Pat. App. & Inter. 1989).

► Regarding claims 8-10, Franzen'368's or Schürenberg'872 as modified by Franzen'830's and Bornholt's, Henneman's, Rosenberg's, Pritchard's, Lanier's and Nishi et al. disclose the claimed invention except for the specific limitation of "*figure 8-like holes*" formed in the retainer plate. Since applicant has not disclosed that Applicant's "*figure 8-like holes*" solve any stated problem or has any particular purpose, and it appears that the invention would perform equally well with the various shapes shown in Bornholt's, Henneman's, Rosenberg's, Pritchard's, and Lanier's, the limitation is deemed unpatentable for being a matter of design choice that furthermore requires only routine skill in the art.

► Regarding claims 11 and 12, Franzen'368's or Schürenberg'872 as modified by Franzen'830's and Bornholt's, Henneman's, Rosenberg's, Pritchard's, Lanier's and Nishi et al. disclose the claimed invention except for the specific limitation of "*chamfered corner*" formed in a post portion of the handle that matches another "*chamfered corner*" formed in the retainer plate. Since applicant has not disclosed that Applicant's "*chamfered corner*" solve any stated problem or has any particular purpose, and it appears that the invention would perform equally well with the various peripheral shapes shown in Nishi's, as shown in Fig.6(a,b), Fig.8(a,b) and Fig.14(a,b), the limitation is deemed unpatentable for being a matter of design choice that furthermore requires only routine skill in the art.

► Regarding claims 13 and 14, the use of the sample plate for MALDI mass analysis is recited by Franzen'368 in sect.[0003], by Franzen'830 in Col.1/ll.1-59, and by Schürenberg'872 in the Abstract, Sect. [0002] and Sect. [0004].

Communications

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard E Souw whose telephone number is 571 272 2482. The examiner can normally be reached on Monday thru Friday, 9:00 am to 5:00 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R Lee can be reached on 571 272 2477. The central fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306 for regular communications as well as for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0956.

bes
May 10, 2004

JOHN R. LEE
SUPERVISORY PATENT EXAMINER
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